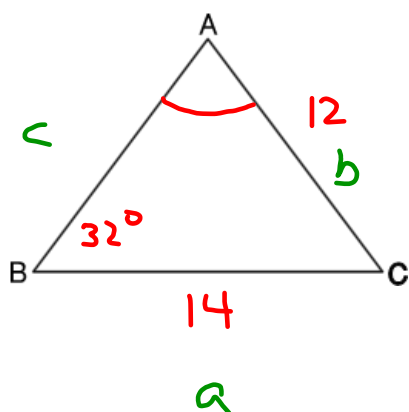


Map4C Opener_ Day 4

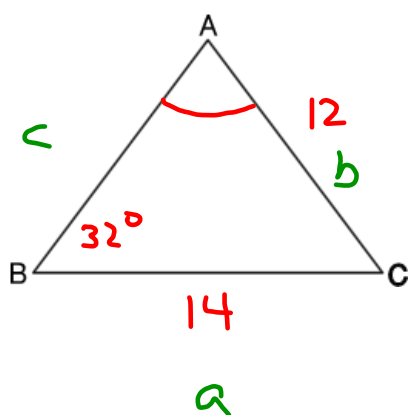


Solve for A

Test
Tuesday/
Wednesday

Feb 5-10:05 AM

Map4C Opener_ Day 4

Solve for $\angle A$

$$\frac{\sin \angle B}{b} = \frac{\sin \angle A}{a}$$

$$\frac{\sin 32^\circ}{12} = \frac{\sin \angle A}{14}$$

$$\sin 32^\circ (14) = 12 \sin \angle A$$

$$\frac{0.5299(14)}{12} = \sin \angle A$$

$$0.6182 = \sin \angle A$$

$$\sin^{-1}(0.6182) = \angle A \quad \angle A: 38.2^\circ$$

$$\angle A = 38^\circ$$

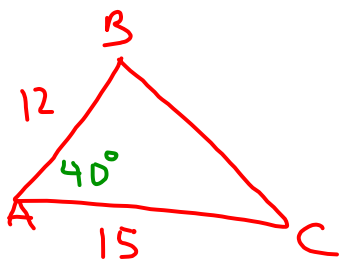
Feb 5-10:05 AM

2.4 Cosine Law p.104

Key Concepts

Cosine Law

→ no right \angle s
no matching side



$$a^2 = b^2 + c^2 - 2bc \cos \angle A$$

$$b^2 = a^2 + c^2 - 2ac \cos \angle B$$

$$c^2 = a^2 + b^2 - 2ab \cos \angle C$$

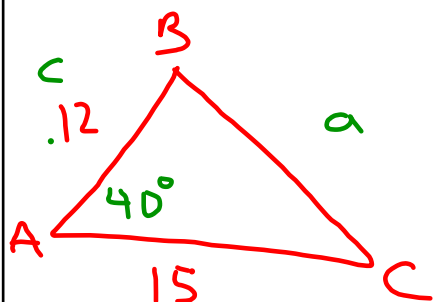
all 3 sides

- 2 sides - contained angle
(enclosed)

Feb 5-12:36 PM

Cosine Law → no right \angle s

no matching \angle s and side



$$a = ?$$

$$b = 15$$

$$c = 12$$

$$\angle A = 40$$

$$a^2 = b^2 + c^2 - 2bc \cos \angle A$$

$$a^2 = 15^2 + 12^2 - 2(15)(12) \cos 40$$

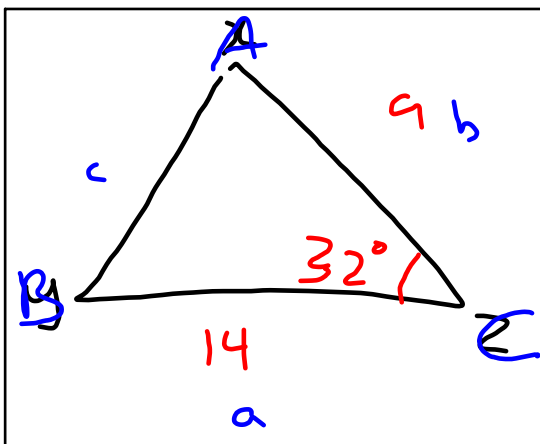
$$a^2 = 225 + 144 - 360(0.7660)$$

$$a^2 = 369 - 275.7$$

$$\sqrt{a^2} = \sqrt{93.3}$$

$$a = 9.6$$

Feb 5-12:36 PM



$$c^2 = a^2 + b^2 - 2ab \cos C$$

$$c^2 = 14^2 + 9^2 - 2(14)(9) \cos 32$$

$$c^2 = 196 + 81 - 252 \cos 32$$

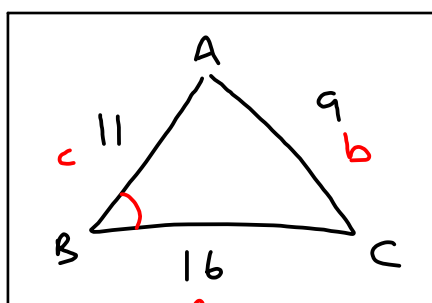
$$c^2 = 277 - 252(0.8480)$$

$$c^2 = 277 - 213.7$$

$$\sqrt{c^2} = \sqrt{63.3}$$

$$c = 8.0$$

Feb 5-12:47 PM



$$b^2 = a^2 + c^2 - 2ac \cos B$$

$$9^2 = 16^2 + 11^2 - 2(16)(11) \cos B$$

$$81 = 256 + 121 - 352 \cos B$$

$$81 = 377 - 352 \cos B$$

$$81 - 377 = -352 \cos B$$

$$\frac{-296}{-352} = \cos B$$

$$+ (0.8409) = \cos B$$

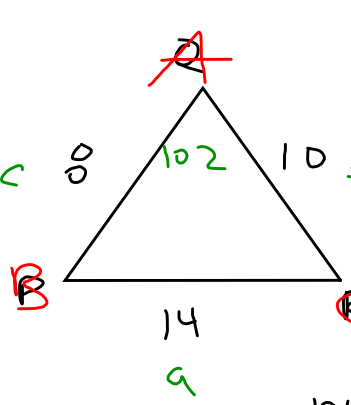
$$\cos^{-1}(0.8409) = \angle B$$

$$32.7 = \angle B$$

$$33 = \angle B$$

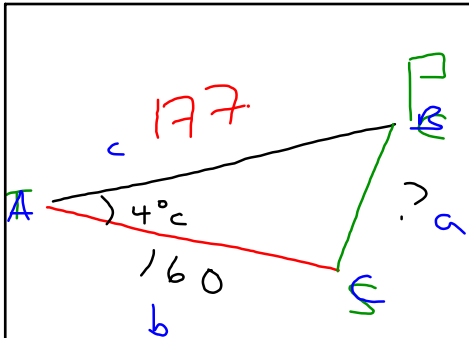
$a = 16$
 $b = 9$
 $\therefore c = 11$

Feb 5-12:54 PM



$a^2 = b^2 + c^2 - 2bc \cos \angle A$
 $14^2 = 10^2 + 8^2 - 2(10)(8) \cos \angle A$
 $196 = 100 + 64 - 160 \cos \angle A$
 $196 = 164 - 160 \cos \angle A$
 $196 - 164 = -160 \cos \angle A$
 $32 = -160 \cos \angle A$
 $\frac{32}{-160} = \cos \angle A$
 $-(0.2000) = \cos \angle A$
 $\cos^{-1}(-0.2000) = \angle A$
 $102 = \angle A$

Feb 14-8:41 AM



$a^2 = b^2 + c^2 - 2bc \cos \angle A$
 $a^2 = 160^2 + 177^2 - 2(160)(177)(\cos 4^\circ)$
 $a^2 = 25600 + 31329 - 56502$
 $a^2 = 427$
 $a = 20.6$
 $a = 21 \text{ yds}$
 The golfer is 20.6 yards from the cup.

Feb 14-8:55 AM

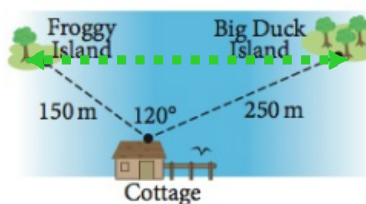
Hmk. p. 110 & 111
q. 3, 4, 7 b), 10*, 12*

Feb 22-8:14 AM

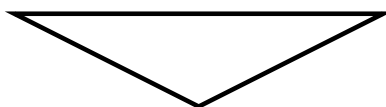
Achievement Check

- 12.** Cheryl likes to swim between two islands near her cottage as shown. She swims according to this schedule.

Day	Length of Swim (km)
Monday	0.75
Wednesday	1.0
Friday	1.2



- Determine the distance between the two islands.
- Cheryl always starts and finishes at the cottage. Determine the route she takes each day.
- Is there more than one possible route for each day? Explain.

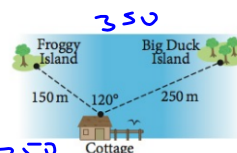


Sep 27-11:58 AM

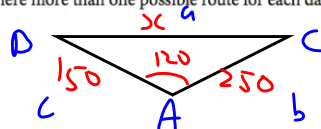
Achievement Check

12. Cheryl likes to swim between two islands near her cottage as shown. She swims according to this schedule.

Day	Length of Swim (km)
Monday	0.75
Wednesday	1.0
Friday	1.2



- Determine the distance between the two islands.
- Cheryl always starts and finishes at the cottage. Determine the route she takes each day.
- Is there more than one possible route for each day? Explain.



$$a^2 = b^2 + c^2 - 2bc \cos \angle A$$

$$a^2 = 250^2 + 150^2 - 2(250)(150)\cos 120$$

$$a^2 = 62500 + 22500 - 75000(-0.5000)$$

$$a^2 = 85000 + 37500$$

$$a^2 = \sqrt{122500}$$

$$a = 350 \text{ m}$$

Sep 27-11:58 AM

Sep 27-12:18 PM